

WHAT IS CLAIMED IS

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1. A communication method comprising the steps
of:

a) transmitting an ACK signal indicating that a
received packet includes no error or a NACK signal
10 indicating that the received packet includes error from a
reception end to a transmission end, and performing
automatic repeat request;

b) obtaining reliability of the received packet
when demodulating it at the reception end; and

15 c) reporting from the reception end to the
transmission end the reliability of the received packet,
utilizing the ACK/NACK signal by using not less than three
levels.

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2. The method as claimed in claim 1, further
comprising the step of d) determining based on the
25 reliability of the received packet whether or not the
received packet is to be stored so as to be combined with
a re-transmission packet, when the received packet
includes error.

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3. The method as claimed in claim 1, further

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a) transmitting an ACK signal indicating that a received packet includes no error or a NACK signal indicating that the received packet includes error from a reception end to a transmission end, and performing automatic repeat request; and

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5. The method as claimed in claim 4, further comprising the step of c) re-transmitting a re-transmission packet re-built so as to be able to be properly combined with an already transmitted packet at the reception end, when an information transmission rate for transmission from the transmission end is changed through the transmission parameter control at the transmission end.

6. A communication method in a mobile communication system, comprising the steps of:

- a) transmitting an ACK signal indicating that a received packet includes no error or a NACK signal
- 5 indicating that the received packet includes error, from a reception end to a transmission end, and performing automatic repeat request; and
- b) when uplink site diversity reception is performed such that a plurality of base stations
- 10 simultaneously receive a signal transmitted from a mobile station, generating the ACK/NACK signals at the plurality of base stations, and transmitting them to the mobile station and a host station of the plurality of base stations, then the mobile station as the transmission end
- 15 using the ACK/NACK signals from the plurality of base stations and performing re-transmission control.

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7. The method as claimed in claim 6, further comprising the step of c) generating the ACK signal and transmitting it to each base station from the host station of the plurality of base stations, when the host station
- 25 receives the ACK/NACK signals from the plurality of base stations which include not less than n (≥ 1) ACK signals.

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8. The method as claimed in claim 6, further comprising the step of c) determining at the mobile station that proper reception was performed at the

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reception end, when the mobile station receives the ACK/NACK signals from the plurality of base stations which include not less than n (≥ 1) ACK signals.

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9. A communication method in a mobile communication system, comprising the steps of:

10 a) transmitting an ACK signal indicating that a received packet includes no error or a NACK signal indicating that the received packet includes error, from a reception end to a transmission end, and performing automatic repeat request; and

15 b) when uplink site diversity reception is performed such that a plurality of base stations simultaneously receive a signal transmitted from a mobile station, generating the ACK/NACK signal at a host station of the plurality of base stations, and, transmitting from
20 the plurality of base stations the same ACK/NACK signals generated by the host station to the mobile station.

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10. A communication method in a mobile communication system, comprising the steps of:

a) transmitting an ACK signal indicating that a received packet includes no error or a NACK signal
30 indicating that the received packet includes error, from a reception end to a transmission end, and performing automatic repeat request; and

b) when downlink site diversity reception is

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performed such that signals transmitted from a plurality of base stations are simultaneously received by a mobile station, demodulating a received packet at the mobile station, generating the ACK/NACK signal, and transmitting it; and

c) when a host station of the plurality of base stations receives the ACK/NACK signals via the plurality of base stations which include not less than n (≥ 1) ACK signals, determining that the plurality of base stations performed proper reception, then re-transmission control being performed at the plurality of base stations.

11. A base station using an ACK/NACK signal and performing automatic repeat request, wherein said base station participates uplink site diversity such that a plurality of base stations simultaneously receive a signal transmitted from a mobile station, said base station comprising:

a part generating the ACK/NACK signal and transmitting it to the mobile station and to a host station; and

a part receiving the common ACK/NACK signal from the host station of the plurality of base stations.

12. A base station using an ACK/NACK signal and performing automatic repeat request, wherein said base station participates uplink site diversity such that a

plurality of base stations simultaneously receive a signal transmitted from a mobile station, said base station comprising:

- 5 a part transferring a received packet to the host station of the plurality of base stations; and
- a part receiving the common ACK/NACK signal from the host station of the plurality of base stations, and transferring it.

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- 13. A base station receiving an ACK/NACK signal and performing re-transmission control, said base station
- 15 participating downlink site diversity such that the ACK/NACK signal transmitted from a mobile station is received by a plurality of base stations simultaneously, said base station comprising:

- 20 a part transferring the received ACK/NACK signal to a host station of the plurality of base stations; and
- a part receiving a signal concerning the ACK/NACK signal from the host station of the plurality of base stations, and performing re-transmission control.

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